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CURRENT PATTERNS AND PROGRAMS FOR TEENAGE PREGNANCY PREVENTION: A SUMMARY FOR POLICY MAKERS

PREPARED FOR THE

COMMITTEE ON LABOR AND
HUMAN RESOURCES
UNITED STATES SENATE

BY THE

INSTITUTE FOR RESEARCH AND EVALUATION

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FOREWORD

This committee print is designed to provide background for hearings of the Committee on Labor and Human Resources on the general subject of adolescent pregnancy prevention. At the request of Senator Hatch, Dr. Stan E. Weed was commissioned in February of 1988 to prepare a comparative analysis of teenage pregnancy prevention programs, focusing on community-based family planning programs, school-based health care clinics, and value-based prevention models.

Dr. Weed's report is strong in a number of areas, and the committee appreciates his work. Because of the committee's oversight responsibility for the welfare of children and families, it is important that the academic literature in this field be presented in a balanced way. For this reason, I have asked the staff of the majority to comment on his review of the research.

EDWARD M. KENNEDY
CHAIRMAN

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ABSTRACT

This report summarizes and integrates research findings that have relevance for policy makers and administrators who are concerned about teenage pregnancy. Without attempting to be exhaustive, it reviews the major program and solution strategies, with a briefing on their basic assumptions and the evidence regarding their effectiveness. Included are sexuality education, contraception interventions, school based clinics, and the values based adolescent family life programs. These prevention efforts are viewed against a backdrop of the significant predictors and dynamics of sexual activity and pregnancy, with the premise that solutions must connected to and specifically address those dynamics if they are to be successful.

Also described is the philosophical and value context in which policy and research operate, with a more explicit definition of the dimensions of controversy. Consideration is given to the importance of problem definition in developing and selecting solution strategies, and argues for prevention efforts to begin as early in the problem development as possible.

The conclusion emphasizes the continuing failure of the major interventions, the need for a broader based approaches that address more specifically the dynamics of the problem, and the potential of the value based programs. Seven basic criteria are suggested to help guide the development of policy and programs, and by which potential solutions and legislation can be evaluated.

INTRODUCTION

This report is designed to assist policy makers faced with the difficult challenge of formulating appropriate and effective public policy to prevent teenage pregnancy. With much of the current information available primarily in a technical form that is often inaccessible to policy makers, it has not been easy to reach policy decisions in this politically volatile area. Difficult decisions are often postponed, and programs end up relying on continuing resolutions. While research has not provided the ultimate answers, this report synthesizes much of what we do know, and operates from the premise that research can help us distinguish between what we know and what we would like to believe. Busy administrators and policies makers are faced with decisions that have to be made absent the ultimate solution.

Without intending to be exhaustive, the relevant empirical evidence is extracted, and the report focuses on the dynamics of teen pregnancy in a way that helps the reader assess the extent to which programs and their particular assumptions are connected to, and specifically address, those dynamics. Solutions that do not address the core factors related to teen pregnancy will experience only limited success, at best.

Another major purpose of this report is to provide an overview of current preventive efforts, and to summarize the results of those efforts where evaluative data are available. Given the complexity of the problem, and the variety of proposed solutions, factual evidence of the efficacy of these potential solutions is very important. Unfortunately, such evidence has been slow in coming, inconsistent in quality, and often generated by sources having a vested interest in program success. Funding constraints (such as the one-to-five percent limit on Title XX programs) have also contributed to information deficiencies.

There is a clear need for more careful and systematic evaluation of program and policy interventions. There are many criteria other than effectiveness which influence how programs are developed and implemented. However, if the real concern is to solve problems, effectiveness must become the crucial element in these discussions. The emphasize must ultimately focus on those things that actually make a difference.

One other objective of this report is to summarize the philosophical dimensions which are inherent in the proposed solutions, and around which most of the debate occurs. These include the appropriate stage for effective intervention and prevention, the role and responsibility of government and families, the balance between individual rights and social responsibility,

the processes of individual change, and the appropriate form and context for the expression of human sexuality. These various dimensions emerge repeatedly in the policies and programs we have reviewed. Differing ideological positions on these dimensions contribute to most of the controversy and debate in the state and federal agencies struggling with pregnancy prevention programs and legislation. Failure to address the dimensions early, explicitly, and where possible, empirically contributes to the controversy, and often immobilizes efforts to develop viable policies and lasting solutions. Although there is not room to explore each one in detail, it may be helpful to present and illustrate them briefly as a way to think about the problem and the potential solutions.

Out of this review and integration comes a recommended set of criteria to help policy makers and administrators review intervention strategies and proposed solutions. Let us first look more closely at how the problem is defined.

DEFINITION OF THE PROBLEM

Solution strategies usually depend on how the problem is defined. If the birth of a baby to an unwed teenager is viewed as the critical problem because of low birth weight and other health risks, reduced educational and employment opportunities, welfare dependency, etc., then a set of solutions can be developed to address either the birth, or the consequences of that birth to the teen. If, on the other hand, we define the problem as premature pregnancy per se, then avoidance of the pregnancy becomes our focus. Furthermore, if we define the teen pregnancy problem as the result of premarital sexual activity, with pregnancy as just one of the negative consequences, we arrive at a very different set of solutions. Prior to the health interventions for teen mothers and their babies, the stages of abortion or birth, adoption or retention, contraception or abstinence all lend themselves to possible intervention.

Sexual activity among unwed teens, the primary cause of teen pregnancy, has until now received the least attention as a point of intervention in solution development. If, in fact, we see pregnancies to unwed teens as premature, then one might just as easily view the sexual activity leading to that pregnancy as premature. As much as one might like to, there simply is no way of separating teen pregnancy from premature sexual activity. Dealing with "premature sexual activity" raises a whole different set of issues than dealing with low birth weight babies.

Intervention strategies are possible across the full range of the problem definition. However, some have received considerably more attention and support at the federal level than others. On the prevention side of the problem, contraceptive services and

counseling have generally held the dominant policy position in terms of the amount of federal funding devoted to them. We will review this and the other approaches that have been implemented as prevention strategies.

PROGRAM AND SOLUTION STRATEGIES

There are a variety of strategies operating in the realm of pregnancy prevention. This report will focus on three strategies: 1) traditional sexuality education, 2) contraceptive counseling and services for teenagers, and 3) prevention of early sexual activity. In recent years, teen pregnancy has provided another justification for sexuality education programs in the public schools. The second strategy is represented by family planning services for teenagers under Title X of the Public Health Services Act, and the more recent movement of establishing School Based Clinics. Programs reflecting the third strategy have been sponsored by the Adolescent Family Life demonstration projects (Title XX of the Public Health Services Act).

One of the striking features of all of these efforts is the general lack of independent, systematic evaluation of program outcomes and intended results. Much of what is being sponsored to solve teen pregnancy is being done on the basis of deeply held but untested assumptions regarding what will work. We will look briefly at these strategies, their underlying assumptions, and the evidence that helps us assess their potential as viable solutions.

Traditional Sexuality Education Programs

Sexuality education has been offered over the last two decades as a key to minimizing and reducing the sexual problems experienced by adolescents. The prevailing assumption has been that these problems stem from ignorance, and the obvious solution is information--factual, accurate, dispassionate information. Knowledge, is seen as the best road to prevention. Sexuality educators have tried to provide information and increase knowledge about human sexuality. With that knowledge, it is assumed, youth will act responsibly and significantly reduce their risks.

One of the first major empirical challenges to that assumption came from a national study sponsored by the Centers for Disease Control which evaluated fourteen separate sexuality education courses or programs offered by eight organizations.

> Though the selected courses represent a variety of approaches, they all were perceived as exemplary, were commonly taught by experienced professionals, covered all the basic sexuality topics, and used a variety of teaching approaches, including didactic presentations, group discussions, role playing, films, and structured exercises. (Kirby, 1985, p. 421)

The conclusions reached are somewhat unsettling to educators in general and sexuality educators in particular.

> Sexuality education has been proffered as a partial solution to a variety of adolescent sexual problems. Research demonstrates that programs increase knowledge, but have little direct impact on values and attitudes, actual sexual behavior, use of birth control, and teen-age pregnancy....
>
> The research shows that sexuality education programs are similar to other educational programs in their effects; many programs increase knowledge and a few help clarify values, but most probably will not have much influence on the direction of sexual values or on sexual behavior. Alone, they will not dramatically reduce unintended pregnancy. (Kirby, 1985 p. 421,424)

A more recent study used data from the National Survey of Family Growth to test the effects of sex education on teenage pregnancy. The author reports:

> Overall, however, the existing data do not yet constitute consistent, compelling evidence that sex education programs are effective in increasing teenage contraceptive use and reducing adolescent pregnancy....
>
> Neither pregnancy education nor contraceptive education exerts any significant effect on the risk of premarital pregnancy among sexually active teenagers--a finding that calls into question the argument that formal sex education is an effective tool for reducing adolescent pregnancy (Dawson, 1986, p. 163,169)

Another recent study by researchers at the Ohio State University used data from the National Longitudinal Survey of Youth, which measured the key variables over a several year time period. They concluded:

> The results of our study lead us to conclude that contemporary sex education courses have ambiguous effects on premarital pregnancy. Exposure to a course appears to be associated with a slightly increased probability of subsequent sexual activity among 15 and 16-year olds. But sex education is also associated with an increased likelihood of effective contraceptive use. The impact of these two factors on premarital pregnancy is extremely modest. (Marsiglio and Mott, 1986, p. 154)

The authors say "extremely modest" because the relationship between premarital pregnancy and sex education was not statistically significant, nor nearly as important as the other

variables which predicted adolescent pregnancy--church attendance, parental education, race, two parent families, etc.

Another study used the High School and Beyond data to address the issues, and arrived at similar conclusions:

> Neither of these variables (sex education and birth control knowledge) significantly affects the chances that a black or white teenager would have a child in the two-year period under study...Our findings suggest that knowledge, as measured by birth control knowledge and sex education courses, is not successful in reducing the chance of out-of-wedlock childbearing....These findings have important implications for programs and policies addressing teenage pregnancy and childbearing. Although sex education is often promoted as a way to reduce the incidence of early pregnancy, our results suggest that simply requiring more students to take more sex education, as it is currently provided, is not the answer. (Hansen, Myers, and Ginsberg, 1987, pp. 250-251)

These findings are often cited as evidence that sex education courses in the schools do not increase the likelihood of early sexual activity and pregnancy. The purpose, however, is not simply to affect no damage, but to specifically address and reduce the targeted problem. Maintaining that a program has not done any damage is not very reassuring to those who are concerned about solving the problem. The bulk of the evidence from most studies indicates that sex education increases knowledge of sex-related issues. However, the translation of that knowledge into behavior, and the subsequent reduction of the original problems is where the system breaks down.

On the whole, the latest and best research on sexuality education as a deterrent to the problems of teen pregnancy and sexually transmitted diseases indicates that sex education programs as they now exist are not an effective solution. Adolescent sexual behavior is not primarily a function of their level of sexual knowledge. Relying on the "informational model" as a strategy, regardless of its popularity, will not be an effective solution.

Family Planning Programs

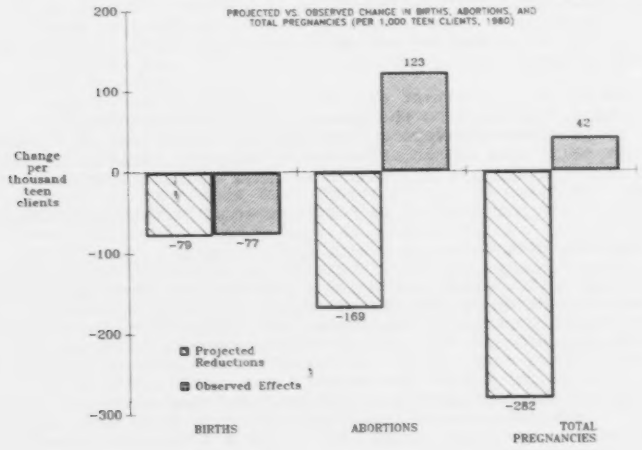
Until recently, family planning programs have been proffered as the major solution to teenage pregnancy, at least in terms of what the federal government has funded and supported. During the past decade and a half, this effort has consisted of the provision of family planning services to teenagers through some 5,000 family planning clinics throughout the country. Currently, about a million and a half teenagers are involved in these clinic programs each year. Estimates about the direct costs of such programs (federal, state, and local money) have varied from $350 to $450 million annually, with about one-third of that amount devoted to

teens. This solution assumes that sexual activity among teens is a given, that it is irreversible, and that protecting youth from the consequences of that behavior through contraceptive counseling and services would reduce the risks of sexual behavior.

There have been surprisingly few studies which systematically examine the effects of the family planning programs on teenage pregnancy rates. One significant attempt was made by the Alan Guttmacher Institute (Forrest, Hermalin, and Henshaw, 1981) to assess the program using aggregate (county level) data to determine if higher rates of program enrollment were related to lower rates of pregnancy. Limitations of the data required them to indirectly estimate the family planning program effects on abortion and pregnancy rates. As will be seen, a direct analysis of these effects turned out to be widely divergent from these estimates.

Another attempt to asses the impact and effectiveness of these programs used data from all fifty states and the District of Columbia covering the years from 1976 to 1982. Analysis of the interstate variation in teenage family planning use and pregnancy rates was completed, controlling for the other things which also affect teenage pregnancy (race, poverty, urbanization, mobility, prior fertility, etc.). Furthermore, examination of the changes over time in adolescent pregnancy rates and family planning utilization by teenagers was done (Weed and Olsen, 1986).

IMPACT OF TEENAGE FAMILY PLANNING PROGRAMS



In summary, the analysis shows that rather than the predicted reduction of 200 to 300 pregnancies per 1000 additional teen family planning clients, there was an observed net increase of about forty pregnancies per 1000 teenage clients in 1980. There was a reduction of about eighty births per 1000 teen family planning clients. However, there were also about 120 more abortions for every 1000 teen clients.

While the magnitude of these numbers changes somewhat depending on the year, the pattern of results is consistent, both with cross-sectional as well as longitudinal analyses. The negative relationship between family planning involvement and birth rates shown in these studies has been known for some time.

However, the positive relationship between family planning involvement and abortion and pregnancy rates appears equally consistent across the studies. We concluded that pregnancy rates were not going down as a function of family planning involvement, and that the reduction in birth rates was due not to a reduction in the initial occurrence of pregnancy, but to more frequent termination of pregnancy through abortion.

A subsequent study by the Alan Guttmacher Institute (Singh, 1986) also employed an interstate analysis, and reported a very similar pattern of results:

EFFECTS OF TEENAGE FAMILY PLANNING PROGRAM PARTICIPATION ON ADOLESCENT PREGNANCY, BIRTH, AND ABORTION RATES

(STANDARDIZED REGRESSION COEFFICIENTS)

	PREGNANCY	BIRTH	ABORTION
BASIC MODEL			
Singh	.28	NR	.44
Weed & Olsen	.23	-.21	.49
PRIOR FERTILITY CONTROLLED			
Singh	NR	-.29	.43
Weed & Olsen	.24	-.22	.49

Note: NR = Not Reported

In summary, the AGI study reports consistently positive coefficients for pregnancy, negative coefficients for birth rates, and positive coefficients for abortion rates. This pattern, as well as the magnitude of the coefficients, was very similar to that reported in the Weed & Olsen study. The intended net effect of a reduced rate of adolescent pregnancies and abortions has not been realized. If this kind of pattern continues to hold up with additional research, more years of data, and different kinds of model specification, the policy implications are quite significant.

With a different model specification, particularly a measure of sexual activity, a different pattern of results could emerge. If such a measure had existed for ea. state, it would have been included in our analysis. Unfortunately, it was not available for our analysis or the earlier studies which had claimed a reduction in teen pregnancies due to family planning involvement (Forrest, Hermalin, and Henshaw, 1981; Forrest, 1984). We have reason to believe that the magnitude of the coefficients might change slightly with the inclusion of this variable, but that the basic pattern of results would not change drastically.

The assumption that family planning programs cause a reduction in teenage pregnancy rates is not consistent with the evidence from these studies. The recent news release from AGI, based on two nationwide surveys that included women from 15 to 44, offers a similar conclusion:

> making contraceptives available may not be enough to prevent women from having unplanned and unwanted pregnancies. "The data examined here present compelling evidence of the problems women have in using even the most effective methods", the researchers wrote. (Kolata, 1988)

If the data are correct, then how do we explain the failure? Why doesn't the pregnancy rate go down when the enrollment rate of teens in the family planning programs goes up? Most believe (barring method failures) that if effective contraceptives are used regularly and consistently, the probability of pregnancy is reduced. It is also known, however, that the probability of adolescents to regularly and consistently use contraceptives is low. Teens are generally irregular, inconsistent, and even resistant to effective contraceptive use. Several possible explanations could account for program failure.

1. <u>Teens are limited by developmental capacity.</u> The contraceptive solution to teen pregnancy assumes a rational, logical disposition, the ability to engage in formal operations thinking "in which adolescents are able to hypothesize abstractly on the consequences of behavior, evaluate the consequences, and trace action to bring about the preferred outcomes. At the same time adolescents are forging their identities, they are, according to Piaget (1958)

experiencing a shift from concrete to formal operational thought." (Franklin, 1986, p.8)

> The young adolescent is locked into the present. His view of the future is constricted: he may grasp the effect of today on tomorrow, but not on the day after tomorrow. (Chilman, 1979, p.48)

The correct assimilation and application of information depends upon a certain level of emotional maturity and cognitive development. Adolescents may simply lack the developmental capacity and maturity to engage in the rational decision making process required for effective contraceptive use. The decision making process typical of many adolescents is characterized by egocentrism, impulsivity, and immediacy. Adolescents do not function primarily on the basis of what they know, nor on the basis of the long range consequences of their behavior. Their behavior is much more likely to be a function of what they perceive as being immediately important, fulfilling, valuable, and which satisfies their perceived and immediate needs.

2. Risk taking behavior is prevalent in adolescents. A certain level of "manageable risk" has its own rewards. The emotional high and spirit of adventure inherent in risky activities, accompanied by a sense of infallibility about immediate and personal consequences, lends itself to sexual involvement of adolescents and inadequate contraceptive behavior.

3. The decision to abstain from or engage in sexual activity has not been a deliberate or conscious one. Planning ahead (with contraceptives) for a sexual encounter requires an admission about their own sexuality that they are not comfortable with. It is much more palatable and personally acceptable to have sex "spontaneously" and to live with that than to admit to themselves and others that they wanted sex, anticipated it, and planned for it.

4. Society's message to adolescents is that sexual activity is socially acceptable and in many ways is encouraged and legitimized. The forces in society that have driven sexual activity rates upward are more immediate, more salient and more potent than are the incentives and opportunities for contraception. The influences for contraceptive use are distant, infrequent, and impotent.

5. Contraceptive availability reduces the perceived risk of sexual activity, undermining the message to abstain. However, for the reasons mentioned above, contraceptive use does not keep pace with the increased rate of sexual activity.

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6. Many adolescents are not really trying, either consciously or unconsciously, to avoid pregnancy. Becoming pregnant has certain rewards attached, important incentives that outweigh the costs. For example, a rite of passage into adulthood, a sense of identity and utility that exceeds the non-pregnant status, or even the emotional reward of having somebody of your own with whom to give and receive love.

7. Few educational and occupational options and opportunities are realistically available to some groups of high risk teens. If adolescents have a very constricted perception of what the future may hold, and attractive alternatives are dimly perceived or are not believed to be obtainable, then the negative costs and consequences of today's behavior are not very salient.

8. Family planning programs have been geared at a narrow and restricted component of teen pregnancy dynamics, and simply have not taken into account the multifaceted nature of its causes either at the individual level, the family level, or the community and societal level.

9. Adolescents come to the clinics too late. They are already sexually active, fear pregnancy, and come in for pregnancy testing, not pregnancy prevention. This implies that coming in earlier, and therefore at younger ages, may be more effective. If, however, the other explanations mentioned above are valid, earlier visits at younger ages may not help and could be counterproductive.

At this stage of research, we can not fully determine which of these or some other explanation is the most promising, whether the reasons for failure are clearly different for different population sub-groups, or whether some combination of these explanations will account for the failure of family planning programs. Our hope for now is to collect the kind of data that will help identify the most important explanations. Obviously, understanding more clearly and specifically why programs do not work could help in the development of those policies and programs that will by avoiding some of the same mistakes, faulty assumptions, etc.

School Based Clinics

This strategy is being tried in a number of areas, partly due to a recognition that the community-based family planning clinics were not doing the job, supposedly because they were not accessible enough to the students. Proponents maintain that putting family planning services in or near schools would facilitate access by students, improve monitoring of students to encourage more regular and consistent contraceptive use, and reduce some of the negative stigma attached to community clinics by making this a legitimate part of school services and activities. This strategy is being

widely advocated, in spite of a lack of evidence that pregnancy rates (rather than birth rates) were reduced in schools that have tried this approach.

A current study coming from the Center for Population Options is the first serious attempt by an agency independent of the programs to systematically evaluate the effectiveness of several school based clinics in different geographical areas. The study collected data in six sites, with specific attention to changes in rates of sexual activity, use of birth control, pregnancy and birth. The bottom line of this study is that there was no substantial decline in the pregnancy or birth rates among sexually active students in those schools with clinics as compared with the control schools. (Kirby, 1988)

Preventing Early Sexual Activity

This approach has operated from the premise that prevention of premature sexual activity is the surest and safest way to avoid teen pregnancy. The Adolescent Family Life Act (Title XX) has provided the major recent impetus for this strategy. This federally funded program is an attempt to intervene at the earliest stage of the problem producing behavior, premature sexual activity.

While this approach has often been ignored or dismissed, Back (1983) has maintained that "neither the experience of population control programs nor the general theories of social psychology justifies the neglect of the possibility of reducing adolescent sexual behavior." He concludes that the preference for public policies encouraging contraception rather than abstinence "seems to be more a question of where one wants to intervene than where one could." Vinovskis (1988) has similarly challenged the assumption that recent increases in sexual activity among teenagers are inevitable and irreversible by presenting contrary historical evidence, noting that "a glance at the fluctuations in the rates of premarital pregnancy in America over the past 350 years should be enough to convince anyone that such increases can be reversed. . ."

The viability and importance of abstinence as a strategy for preventing teenage pregnancy is receiving more attention and emphasis in recent years. Socio-economic, as well as public health concerns underscore the importance of addressing abstinence as a public policy issue. After analyzing the contribution of teenage pregnancy to welfare dependence, Bernstein (1986) states this need in the following way: "What, then should we be doing that we are not doing about the teenage pregnancy problem? The first imperative is to change attitudes among teenage girls and boys to discourage sexual activity." This requires going beyond current efforts by "focusing attention on the first stage in the decision making that may lead to teenage pregnancy and encouraging teenagers to delay sexual activity."

Until recently, teenage sexual abstinence has been treated primarily as a moral issue and people have been reluctant to make public policy simply on the basis of morality. Efforts to promote abstinence have often been viewed as an attempt to impose values or restrict freedom. However, as Dunn (1982) has observed, "one might challenge why teaching teenagers not to have babies is non-moralizing but teaching them not to have sex is." Sexual abstinence among teenagers is now being treated more in terms of its public health and social consequences (Bernstein, 1986), rather than simply on moral grounds.

In addition to preventing teenage pregnancy, a number of other reasons for sexual abstinence among teenagers have been recognized. Perhaps the most recent and salient of these has been the growing concern about AIDS and other sexually transmitted diseases among young people. Prior to the AIDS epidemic, it was considered unsophisticated to promote abstinence as an approach to teenage pregnancy prevention. However, with increasing numbers of deaths due to AIDS, abstinence has now moved into the realm of practicality.

The recent report from the National Research Council Risking the Future, states,

> Several kinds of programs are under way that aim to discourage early sexual activity among unmarried teenagers, including family life education programs, assertiveness programs, and programs to provide role models for high-risk youth. These initiatives should continue to be monitored. In addition, new approaches to encourage delay of sexual intercourse should be designed, implemented, and evaluated. (p.258)

As the contributors to this report point out, we don't know very much about how to do that. The Title XX legislation addresses the abstinence issue directly, including the process by which it is believed this can best be accomplished. It states:

> the prevention of adolescent sexual activity and adolescent pregnancy depends primarily upon developing strong family values and close family ties, and since the family is the basic social unit in which the values and attitudes of adolescents concerning sexuality and pregnancy are formed, programs designed to deal with issues of sexuality and pregnancy will be successful to the extent that such programs encourage and sustain the role of the family in dealing with adolescent sexual activity and adolescent pregnancy. (Sec. 2001.The Public Health Service Act, Title XX, para 10A)

One of its purposes then, was to

> find effective means, within the context of the family, of

reaching adolescents before they become sexually active in order to maximize the guidance and support available to adolescents from parents and other family members, and to promote self discipline and other prudent approaches to the problem of adolescent premarital sexual relations, including adolescent pregnancy. (ibid. para 11C(1))

A variety of demonstration projects have been developed, all of which by legislative mandate have included not only parental permission but parental involvement, a values based approach to family life education, and a primary emphasis on abstinence as the key to prevention of teen pregnancies. More explicitly stated, the assumptions upon which these programs are based could be stated as follows:

1. Sexual activity among teens is not inevitable, irreversible, nor desirable.

2. Knowledge alone is an inadequate basis for behavior changes in adolescents. An effective intervention may include but must go beyond reproductive physiology and anatomy to deal with belief and value systems, decision making, behavioral intentions, and take into account the other critical influences in an adolescent's life.

3. The attitudes, values, and belief systems of adolescents regarding sexuality are part of a broader and very significant set of beliefs about human life, human dignity, human relationships, and the family as a key unit of society. Therefore, human sexuality must be addressed in that broader context.

4. The degree of influence will be increased as parents are involved in a significant and meaningful way--reinforcing what is taught by communicating their own values in the home setting.

5. Abstinence is the preferred approach to teen pregnancy reduction, and that when properly presented will be seen as a viable, practical, and preferred choice by teens.
6. When presented with a dual message, such as "abstinence is best, but contraception works for those who do not choose abstinence", teens are confused and the abstinence message is undermined by the contraceptive message.

These assumptions, along with specific goals and purposes of the variety of Title XX demonstration projects, have been evaluated using measures of attitudes and values, sexual behavior, and pregnancy rates. A brief summary of these programs and the evaluations that are available to date can be found in The Adolescent Family Life Demonstration Projects: Program and Evaluation Summaries. (Dec, 1987)

While the evaluation efforts of most of these demonstration programs are in the early stages, the preliminary data indicate that it is possible to realize a significant shift in attitudes and values about sexuality. Donahue (1987) found that participants had a lower intention to engage in sexual activity than controls. In another program Weed and Olsen (1987) found that after the intervention, participants were far more likely to express opposition to early sexual involvement, less likely to have a double standard for girls and boys, and more confident in their ability to deal with peer pressure for sexual involvement. In a separate project, the data showed a clear relationship between abstinent sexual values and sexual behavior, and a significant change in abstinent sexual values due to program involvement (Weed and Olsen, 1988).

What is less clear about these programs at this early stage is the effect of parental program involvement on these values and attitudes, how enduring those attitude and value shifts will be over time, and the extent to which the changes in attitudes and values are related to changes in sexual behavior. As to the latter question, one of the larger programs (in terms of the number of students involved) has measured the direct impact of program involvement on sexual activity and pregnancy rates, and found significant and meaningful differences between the experimental group and the control group (Pollard, 1987, 1988).

In summary, the early evidence on the Title XX programs is encouraging in terms of their potential for reducing premature sexual activity and pregnancy. Although there is more to be learned through additional careful evaluation, limiting or reducing these programs at this early stage of development and testing would constitute a serious legislative error.

SIGNIFICANT PREDICTORS OF SEXUAL ACTIVITY AND PREGNANCY

As was mentioned in the introduction to this report, it is important that policy and program efforts focus on the dynamics of teen pregnancy, and to assess the extent to which programs and their particular assumptions are connected to and specifically address those dynamics. Solutions that do not address the core factors related to teen pregnancy will experience limited success. Let us turn to a brief summary of some of the key factors that account for teen pregnancy and premature sexual activity, with the intent of identifying program and policy intervention opportunities. Obviously, some factors listed below will be more amenable to intervention than others. None would be completely independent of the others, but for purposes of description we have separated them in the following groups.

External, Social Forces

Media models and norms are often credited with contributing to higher rates of sexual activity because of the glamorous and romantic setting in which sex is depicted or implied. Equal credit is given to the absence of any visible consequences for such glamorous sexual involvement. Very little empirical evidence is currently available that directly links frequency and level of public media exposure to rates of teen sexual activity and pregnancy.

What has been directly linked, however, is the amount of peer pressure to engage in sexual activity, and the extent to which close and best friends are perceived to be sexually active. Peer influence can operate either positively or negatively, but most research links it with negative influences. It becomes more potent as teens become older, and tends to work against and sometimes overrides the effects of parental involvement and influence. Very high involvement with one's peers is associated with sexual activity at earlier ages for both sexes.

Individual, Internal Factors

This area of research is receiving more attention of late, and offers some general patterns that have been fairly consistent. One of the strongest factors in this "internal" category is often referred to as a teen's future orientation--the extent to which he/she can envision for himself/herself viable, attractive and obtainable options. Without that, of course, a teen does not see that there is anything important to lose by engaging in high risk behavior.

A related factor is often called a sense of self-determination, or internal locus of control. The extent to which teens perceive that they can have a personal impact on their own destiny, that their behavior and its direction is under their own control rather than some other person, situation, or circumstance. This factor in combination with a future orientation provides a strong deterrent to premature sexual activity and pregnancy.

A third critical component, and one which accounts for a significant amount of the difference between teens' sexual activity and pregnancy rates is their sense of what is important or not important, good or bad, right or wrong. Research evidence from several sources has identified this "values" component as one of the most important predictors of or deterrents to sexual activity and pregnancy for teens.

Perceived invulnerability, --"it can't happen to me"-- combined with the limited ability to link actions with consequences contributes to a variety of risk taking behaviors, including sexual activity.

As was mentioned earlier, the amount of information or knowledge about human physiology and reproduction did not make any important contribution to rates of pregnancy or sexual activity. Self esteem, like knowledge, shows surprisingly little relationship to early sexual activity and pregnancy. It does provide some incremental difference when combined with the factors mentioned above (values, locus of control, and future orientation), but by itself does not account for much of the difference between teens levels of sexual activity and pregnancy. For example, a teen with permissive attitudes about sexuality and a strong sense of infallibility is very much at risk of early sexual involvement and pregnancy, despite a high level of self esteem.

Maturational Pace

Physiological development and the concomitant hormonal levels provide a strong predictor of sexual activity, but this varies by race and gender (Udry and Billy, 1987). Although not amenable to social policy intervention, this factor does provide an indication of potential risk at the individual level. Inasmuch as cognitive and emotional development lag behind pubertal development, teens are physiologically capable of sexual and reproductive actions for which they are not psychologically, socially, or economically prepared.

Activities

One of the consistent predictors of early sexual involvement and teen pregnancy is the practice of early, frequent, and steady dating. One would expect more opportunity and more pressure for sexual involvement with higher levels of opposite sex proximity, privacy, and prolonged contact. A social context which puts young people together too soon, too frequently, and too privately can be expected to produce higher rates of sexual activity and pregnancy at earlier ages.

Another activity which is commonly and consistently associated with early sexual involvement and teen pregnancy is higher rates of alcohol and drug use. Similarly, school truancy and drop out are strongly related. It is likely, however, that these activities share a common causal foundation with early sexual activity and pregnancy rather than being directly causal themselves.

A third activity which has shown a consistent relationship to sexual activity and pregnancy has been the extent of adolescent religious involvement. Because church attendance is often not voluntary for adolescence, church attendance is less predictive than is the importance of religion. Religion becomes a part of, and probably a precursor to, the value system mentioned in this section.

Parental/Home factors

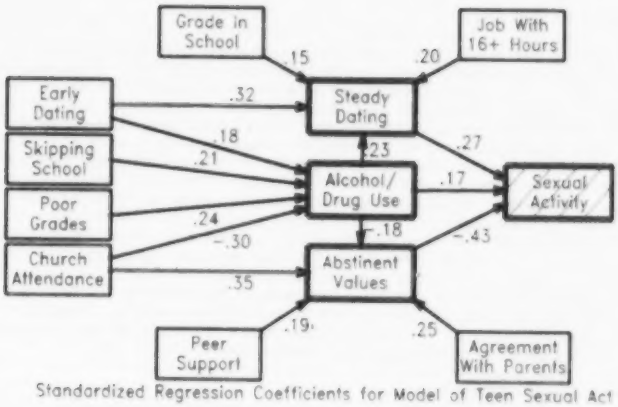
Single parent families and the disruption of two parent families, mother's sexual and fertility experience as a teenager, and older sexually active siblings are all related to higher rates of premature sexual activity and pregnancy for teens. On the other hand, moderate (as opposed to lax or severe) levels of parental control and supervision, parent child communication in an environment of mutual trust and respect, and parental values of abstinence are all related to lower levels of sexual activity and pregnancy. Parental control and supervision has particular significance in the area of teen dating activity. Positive parental involvement in the lives of children has been correlated with reduced risk-taking behavior, better school performance and higher self-esteem. Parental emphasis on achievement and the seeking of meaningful and worthwhile goals is also a factor discouraging early sexual involvement among teenagers. Better educated parents generally tend to set more goals and put a higher value on achievement and value work more than play.

Demographic Characteristics

Socioeconomic level, race and ethnic group, and age all contribute independently to the variation in rates of sexual activity and pregnancy. Obviously, they are not amenable to intervention in the way that many other factors are, but do help to identify groups that are at higher risk.

This summary of important contributors to early sexual activity and pregnancy illustrates some of the complexity inherent in the dynamics of teen pregnancy, and underscores the importance of developing solutions that address those dynamics. Solutions that address this broader range of core factors will be more successful than those that are narrowly focused. A recent state wide study of high school students examined several of these factors simultaneously, looking at the relative impact of these variables. The following figure illustrates some of the factors and dynamics involved, and which must be attended to in a viable solution.

One can readily see in this model, developed from empirical data, several important elements that relate to sexual activity among teens. Not all components of the model are amenable to intervention, and some may represent surrogate measures of a more basic component of the puzzle. For example, the component identified as "working 16+ hours" may be a measure of a teen's higher levels of freedom, independence, personal transportation, and disposable income, all of which may contribute to a condition of higher risk. The important point, however, is that diagnosing the key elements and predictors of sexual activity and pregnancy are essential to effective solutions.



Standardized Regression Coefficients for Model of Teen Sexual Act

PHILOSOPHY AND VALUE CONTEXT FOR TEEN PREGNANCY POLICY & RESEARCH

The identification and definition of the problem, the program solutions and their underlying assumptions, and the related policies we support and implement are influenced by various philosophical/ideological dimensions. These dimensions often remain implicit, and the debate over programmatic interventions becomes fraught with unidentified and unexplicated philosophical/ideological differences. Making these dimensions more explicit may help policy makers and administrators to better articulate their own positions. It may also help to examine those positions on a given dimension. Briefly stated, these dimensions are as follows:

1. **What is the most appropriate and effective stage of intervention to reduce teen pregnancy?** Teen pregnancy program efforts vary from teen parent health and nutrition counseling and low birthweight prevention on one end of the continuum to abstaining from premature sexual activity on the other. Prior to the health interventions for teen mothers and their babies, the stages of abortion or birth, adoption or retention,

contraception or abstinence all lend themselves to possible intervention.

2. **What is the process and what are the dynamics by which adolescents acquire, maintain, or modify behaviors and values?** It is generally assumed that solving the problem of teen pregnancy requires some kind of action or intervention. The question is, which or what kind? Why has the problem of teenage pregnancy been so intransigent? What policy or program will make a difference with the targeted individuals? Answers to this question are varied, and have an important influence on the kind of solutions that people select.

3. **What is the role and responsibility of government and public agencies, homes and parents?** At what level of society (individual teen, teen couple, family, community, larger society) should an intervention occur? The debates regarding parental consent and parental notification, parental involvement vs. non-involvement, financial responsibility, etc, highlight this dimension. State and local school boards, health service providers and agencies as well as legislators often get involved in this debate.

4. **What constitutes the appropriate context and form for the expression of human sexuality?** Is this context, form, and expression any different for adolescents than for adults? For married vs. unmarried, or for males than for females?

5. **What is the proper balance between individual rights and social responsibility? Between rights of privacy and confidentiality and the health and well being of society?** Do teenagers have the right to engage in sexual activity which has consequences for which they cannot be responsible? While most individuals are anxious not to impose undue restriction or constraint on individual liberty and freedom, neither are they willing to allow the pursuit of individual rights to become problematic to others or society. Achieving this balance has been the historical challenge in our free society. Human sexuality is subject to this same balancing act as are other human behaviors, inasmuch as sexual expression can have significant consequences in the larger society which protects individual rights.

The balancing act becomes more complicated with adolescents, with additional restrictions to individual liberty being applied in some areas as a function of a general consensus about their developmental capacity. Issues of judgement, wisdom, experience, and the ability to comprehend next years consequences for today's behavior are important considerations. Rights of choice for adolescents in most areas have been hedged with rights of protection. Constraints that we consider to be in the best interest of the younger

generation have often been imposed. One of the leading legal scholars in the area of family law and children's rights recently stated, "we should be prepared to sacrifice some aspects of our liberated society if that would in fact address the now embarrassing rates of illegitimacy, abortion, and pregnancy among our young people."(Hafen, 1987).

In the policies and programs that we have reviewed, these dimensions emerge repeatedly. Failure to address them early, explicitly, and where possible, empirically contributes to the controversy which often surrounds teen pregnancy programs and policies. Policy and research are very much a function of how we define the problem. How we define the problem is in turn a function of the ideological context and the positions we hold in the various dimensions of that context. The considerations which influence policy formation are often more strongly based on ideological grounds than on empirical grounds. Being more explicit about the ideological and philosophical context helps to improve policy development and research by making our agendas explicit. Such efforts will strengthen the linkage between policy and research, and provide a better foundation for both.

SUMMARY: PROGRAM AND POLICY CRITERIA

This report offers a brief review of the problem and its definition, program efforts and results, and the dynamics of teen pregnancy that need to be addressed if solutions are to be viable. We have reviewed the research dealing with teen pregnancy, including its social and psychological dimensions and its causes and consequences. We have examined traditional sex education approaches, family planning approaches, and programs to prevent early sexual activity. We have considered some of the major philosophical dimensions that influence prevention efforts.

Based on this review and analysis, we can suggest some basic criteria by which potential solutions and legislation can be evaluated. These criteria provide a backdrop against which one can judge the adequacy of the potential solutions. Ultimately, it is effective solutions that interest all of us. Briefly stated, these criteria are as follows:

1. **First, solutions should take into account the significant factors and determinants of adolescent behavior--including their future orientation, their sense of identity and control over their own lives, their belief and value systems, etc.** Adolescent sexual activity and pregnancy rates are directly related to these internal, psychological dimensions. By not taking these into account, our potential for succeeding is drastically reduced.

2. Second, **solutions should take into account the stages of emotional, cognitive and social development of the adolescent population.** Implicit recognition of this factor is reflected in many national and state policies and programs concerning driving, voting, drinking, contractual relations, etc. These activities require a certain level of adult-like judgment and responsibility that will minimize risk to self and others. This maturity is directly linked to developmental capacity as well as experience. Unfortunately, many approaches for reducing teen pregnancy make a wholesale transition of adult relevant assumptions to an adolescent population where those assumptions are not valid. For example, the extension of family planning programs originally designed to serve poor adult women into the area of teen pregnancy prevention (Joffe, 1986) has been both simplistic and overly narrow.

3. Third, **solutions must take into account the cultural norms and circumstances that are a part of the teen's life experience, and try to capitalize on the cultural deterrents to pregnancy.** Teens who become single mothers and those who avoid pregnancy constitute a highly diverse population. The factors and determinants of adolescent sexual and childbearing behavior mentioned above vary considerably with that cultural diversity (Moore, Simms and Betsey, 1986; Furstenberg, Brooks-Gunn, and Morgan, 1987).

4. Fourth, **solutions cannot not rely primarily on the educational/informational approach for deterring teen pregnancy.** Numerous recent national studies have demonstrated the limitations of the "informational" model as a solution to teen pregnancy. These programs increase knowledge, but have little direct impact on values and attitudes, actual sexual behavior, use of birth control, and teen-age pregnancy. Neither pregnancy education nor contraceptive education exerts any significant effect on the risk of premarital pregnancy among sexually active teenagers. On the whole, the latest and best research on sexuality education as a deterrent to the problems of teen pregnancy and sexually transmitted diseases indicates that sex education programs as they now exist do not constitute an adequate or effective solution. This does not suggest information should not be used. It simply means we can't rely on it to solve the problem, and that it will most likely be helpful only in the context of the other criteria proposed here.

5. Fifth, **solutions cannot simply rely on the medical/contraceptive model to solve the problems associated with adolescent sexuality.** These efforts have not reduced the rates of teen pregnancy. Recognizing that failure and moving on to broader based solutions that better address the underlying dynamics of teen pregnancy is necessary if we hope to be more effective in the next fifteen years than we have been in the past fifteen.

6. Sixth, **solutions should focus on intervention at the earliest stages of the problem behavior.** Prevention strategies should focus on the avoidance of sexual involvement and experimentation. Current demonstration programs strongly indicate that it is possible to influence adolescence at this stage. Currently, however, minimal resources are devoted to this approach. The AIDS crisis has certainly provided significant incentive for prevention at the earlier stages. There is every reason to be open to, and actively explore, alternative solutions to pregnancy among adolescents, including a reduction of premature sexual activity.

7. Seventh, **solutions should be broadly based so that the significant agencies and institutions can provide a mutually reinforcing and integrated approach. In particular, it should facilitate the significant and meaningful involvement of parents in the critical events and developmental processes of their children.** A coordinated approach is needed which recognizes the existing and potential impact of a variety of sources of influence in a young persons's life. Schools, youth-services organizations, and other agencies and institutions need to work together in a concerted effort and with a common goal. Without such integration, we should not be surprised to see both duplication and significant gaps in essential services, as well as ineffective or counter-productive programs.

The potential contribution of parents and families is a much ignored resource in teen pregnancy prevention efforts. Research concerning adolescents' acquisition of citizenship, productivity, responsibility, and achievement has consistently identified the major and significant contribution of parental involvement and parental factors. Ignoring, dismissing, or minimizing the role of parents will be counterproductive in the search for effective solutions. Serious consideration must be given to ways and means for incorporating parental interests and prerogatives into policies and programs addressing the teenage pregnancy problem.

8. Finally, **it is essential to assess policy and program effectiveness.** The persistence of social problems and limited funding for social programs require that we determine better what works and what doesn't. Too often the anxiety to do something in the face of a real or perceived crisis is often taken as license to do anything, and the fundamental and practical questions of "will it work" and "how do you know" do not receive adequate attention. If it doesn't work, why not? If it does work, is it cost-effective? These efficacy questions are often overshadowed and preempted by other considerations. Independent and objective evaluation of public programs is a matter of fiscal responsibility and governmental integrity.

The more of these guidelines and factors that we can incorporate into our policies and programs, the more effective and lasting our solutions to the teenage pregnancy problem will be.

There is now a substantial body of evidence that was not available ten years ago which argue for alternative approaches to teenage pregnancy prevention. New information often requires that we reconsider and even change our previously held theories and positions.

CONCLUSIONS

There has been a growing awareness in the public sector, among service providers, and in the research community that current programs have not delivered what was expected in terms of teen pregnancy reduction. Given the drastic consequences of teen pregnancies, sexually transmitted diseases, etc., we can ill afford to assume that the current major thrust and effort is an adequate solution. There is growing support for the idea that the solutions to teen pregnancy must be built on a broader base, address more of the contributing factors, and that policies must take into account a wider range of the dynamics of teen pregnancy if effective solutions are to be found.

As we develop more viable solutions, we must recognize that teenage pregnancy is embedded in a complex set of social, psychological, and economic factors that go well beyond their reproductive physiology, and which must be taken into account if we are to deal successfully with the problem of teen pregnancy. We can no longer rely so completely on medical or informational models. The discussion of prevention must be broadened from concerns about sexuality education and access to reproductive health care to concerns about the total environment in which children live and are expected to develop into functioning adults. It is not simply a matter of improving the quality of sex education in the schools, or changing the kind of counseling that is done in family planning clinics. (Dryfoos, 1985; pp.13-14)

Concerted, mutually reinforcing, and more broadly based approaches offer the greatest potential for a significant and lasting impact on teen pregnancy, sexually transmitted diseases, and other problems facing young people today. Fostering both a stronger sense of self-determinism and a value system that operates against premature sexual activity and pregnancy will provide additional fortification against current trends. Positive incentives and a stake in future opportunities and valued alternatives which are incompatible with teenage pregnancy are needed to encourage young people to avoid early pregnancy.

Solutions of this type will not be simple to develop nor easy to implement. They will, however, go much further than past efforts in solving the problem.

REFERENCES

Back, K. W. 1983. Teenage pregnancy: Science and ideology in applied social psychology. In R. F. Kidd and M. J. Saks, (Eds.). Advances in Applied Social Psychology, Volume 2. Hillsdale, N.J.: Lawrence Earlbaum.

Bernstein, B. 1986. Welfare dependency. In D. L. Bawden (Ed.). The Social Contract Revisited. Washington D.C.: The Urban Institute Press.

Chilman, C. S. 1979. Adolescent Sexuality in a Changing American Society: Social and Psychological Perspectives. Washington D.C.: DHEW.

Dawson, D. A. 1986. The effects of sex education on adolescent behavior. Family Planning Perspectives 18(4):162-170.

Donahue, M. 1987. Technical Report of the National Demonstration Project Field Test of Human Sexuality: Values and Choices. Minneapolis Minnesota: Search Institute.

Dryfoos, J. G. 1984. A new strategy for preventing unintended teenage childbearing. Family Planning Perspectives 16(4):193-195.

Dryfoos, J. G. 1985. A time for new thinking about teenage pregnancy. American Journal of Public Health 75(1):13-14.

Dunn, P. 1982. Reduction of teenage pregnancy as a rationale for sex education: A position paper. Journal of School Health 52(10):611-613.

Forrest, J. D. 1984. The impact of U.S. family planning programs on births, abortions, and miscarriages, 1970-1979. Social Science and Medicine 18(6):461-465.

Forrest, J. D., A. Hermalin, and S. Henshaw 1981. The impact of U.S. family planning programs on adolescent pregnancy. Family Planning Perspectives 13(3):109-116.

Franklin, D. 1986 Black Adolescent Pregnancy: A Critical Review of the Literature. In The Black Adolescent Parent, Stanley Battle, ed. Hayworth Press.

Furstenberg, F. F. Jr., J. Brooks-Gunn, and S. P. Morgan 1987. Adolescent Mothers in Later Life. Cambridge University Press: Cambridge.

Hansen, S., Myers, D. and Ginsberg, A. 1987. The role of responsibility and knowledge in reducing teenage out-of-wedlock childbearing. Journal of Marriage and the Family 49:241-256.

Hayes, C. D. 1987. Risking the Future: Adolescent Sexuality, Pregnancy and Childbearing. Washington D.C: National Academy Press.

Joffe, C. 1986. The Regulation of Sexuality: Experiences of Family Planning Workers. Temple University Press: Philadelphia.

Kirby, D. 1985. Sexuality eduction: A more realistic view of its effects. Journal of School Health 55(10):421-424.

Kirby, D. 1988. "Effectiveness of School-Based Clinics." Presentation given at the Sixteenth Annual Meeting of the National Family Planning and Reproductive Health Association. March 2. 1988.

Marsiglio, W. and Mott, F. L. 1986. The impact of sex education on sexual activity, contraceptive use and premarital pregnancy among American teenagers. Family Planning Perspectives 18(4):151-162.

Moore, K. A., M. C. Simms, and C. L. Betsey 1986. Choice and Circumstance: Racial Differences in Adolescent Sexuality and Fertility. Transaction Books: New Brunswick.

Olsen, J. A. and Weed, S. W. 1986. Effects of family planning programs for teenagers on adolescent birth and pregnancy rates. Family Perspective 20(3):153-170.

Pollard, W. 1987. Report to the OAPP Conference in Washington D.C., on Postponing Sexual Involvement program at Grady Memorial Hospital.

Rodman, H., Lewis, S. I., and Griffith, S. B. 1984. The Sexual Rights of Adolescents: Competence, Vulnerability, and Parental Control. New York: Columbia University Press.

Singh, S. 1986. Adolescent pregnancy in the United States: An interstate analysis. Family Planning Perspectives 8(5):210-220.

Udry, J. R., and J. O. G. Billy, 1987. Initiation of coitus in early adolescence. American Sociological Review 52:841-855.

Vinovskis, M. 1981. An 'epidemic' of adolescent pregnancy? Some historical considerations. Journal of Family History 1981:205-230.

Vinovskis, M. 1988. An "Epidemic" of Adolescent Pregnancy? Some Historical and Policy Considerations. New York: Oxford University Press.

Weed, S. W. and Olsen, J. A. 1986. Effects of family planning programs on teenage pregnancy--Replication and extension. Family Perspective 20(3):173-195.

Weed, S.W. and Olsen, J.A. 1987. Technical Report of the National Demonstration Project Field Test of Sex Respect. Submitted to The Office of Adolescent Pregnancy Prevention, Department of Health and Human Services.

Weed, S.W. and Olsen, J.A. 1988. Technical Report of the National Demonstration Project Field Test of Teen-Aid. Submitted to the Office of Adolescent Pregnancy Prevention, Department of Health and Human Services.

The Adolescent Family Life Demonstration Projects: Program and Evaluation Summaries. 1987 Update from The Office of Population Affairs.

VIII. MAJORITY COMMENTS ON DR. STAN WEED'S REPORT TO THE SENATE COMMITTEE ON LABOR AND HUMAN RESOURCES

Although much of Dr. Weed's discussion of adolescent pregnancy is fair, he appears to demonstrate an a priori bias by reporting partial information in several areas. The structure of his report largely mirrors an earlier, more complete literature review, Risking the Future: Adolescent Sexuality, Pregnancy and Childbearing (1987), compiled by a panel of the National Research Council of the National Academy of Sciences. However, his conclusions regarding the effectiveness of various strategies for preventing teen pregnancy differ from those of both the National Academy panel and subsequent reviewers (Mitchell & Brindis, 1987; Brooks-Gunn & Paikoff, 1989).

Because of our concerns about particular aspects of Dr. Weed's review, the majority members of the Labor and Human Resources Committee wish to comment on (1) his interpretation of his own previously published data, (2) his review of the evaluation literature relevant to abstinence programs, (3) his presentation of the school-based clinic outcome research, and (4) his omission of promising alternatives to contraception, abstinence and traditional sex education approaches. In addition, we object to the assumption implicit throughout his review that because particular prevention strategies such as informational sex education are insufficient in themselves to change adolescent behavior, these strategies are not necessary elements in effective, comprehensive approaches.

Adolescent Fertility and Contraceptive Availability

Based on his own previously published research, Dr. Weed concludes that programs providing contraceptives have not lowered adolescent pregnancy rates, and that reductions in birth rates can be attributed to abortions. Data published in the National Academy of Sciences (NAS) review (pp. 54-55) argue against this conclusion, as adolescent pregnancy rates have dropped from 272 per 1,000 sexually active women aged 15-19 in 1972 to 233 per 1,000 in 1984. A system of federally funded family planning clinics was developed during this same period. In fact, the NAS panel concludes (p. 187) that, "... there is no available evidence to indicate that availability and access to contraceptive services influences adolescents' decisions to become sexually active, while it does significantly affect their capacity to avoid pregnancy if they are engaging in intercourse."

The results of his own (Weed, 1986) analysis of 1980 data appear to be overinterpreted here by Dr. Weed. Although it is never advisable to draw causal inferences from correlational data such as those he analyzed, the lack of available information on either sexual activity rates or contraceptive use renders his causal statements particularly ill-advised. What Dr. Weed purports to prove regarding states cannot be proved with existing data, and 1976 data on adolescent sexual activity by county analyzed by the Alan Guttmacher Institute do not support his conclusion (Forrest, Hermalin & Henshaw, 1981).

Perhaps the most serious problem with Dr. Weed's interpretation is his implication that because contraceptive services alone are insufficient to eliminate the problem of adolescent pregnancy, the contraception strategy no longer merits consideration. The NAS panel, after two years of literature review, concluded that making contraceptive services accessible was the single most effective method of preventing adolescent pregnancy, and we find no argument made here sufficient to dispute that claim.

Abstinence Programs

As Dr. Weed points out, several programs that seek to delay the initiation of sexual activity in young adolescents by means of skill-building and other interventions have been shown to merit continued attention. But in the opinion of Dr. Daniel Federman, Professor of Medicine at the Harvard Medical School and head of the NAS panel on adolescent pregnancy, there is no compelling evidence that abstinence promotion programs are effective with older adolescents who are already sexually active and most at risk. Dr. Federman offered this judgment at a recent Labor and Human Resources Committee hearing. At that time, he pointed out that the NAS review of the adolescent pregnancy literature has been updated as of 1989 in a paper by Dr. Jean Brooks-Gunn of the Educational Testing Service, and that she has not found any good evidence for the effectiveness of abstinence programs either. Such a dearth of support is especially salient since these kinds of programs have received federal funding for the last eight years.

School-based Clinic Outcome Research

Evaluations of contraceptive counselling and services in school-based clinics are preliminary, and have produced mixed results. Dr. Weed refers to a recent study by Dr. Douglas Kirby to support the assertion that school-based comprehensive health clinics have no impact on adolescent pregnancy. Dr. Weed fails to mention either the qualifications and caveats that permit an accurate interpretation of Kirby's research, or the several studies that have shown significant reductions in adolescent pregnancy or fertility rates as a function of reproductive health care provided in comprehensive school health clinics.

According to Dr. Kirby himself, additional information is needed in order to understand the results of his study, which is soon to be available through the Center for Population Options in Washington. First, like all school-based clinics today (Lovick, 1987), less than 25% of services provided by the clinics he studied were reproductive in nature. In addition, many sexually active students either did not use the clinic at all, or did not use it for contraceptive services. In fact, the number of recipients of these services was small relative to the total number of students in each school. A statistical power analysis indicated that Kirby would have needed a larger sample to detect a significant difference in school-wide pregnancy rates between schools with clinics and control schools without clinics.

Moreover, in one school he studied, Dr. Kirby did find significant differences before and after a clinic was established. Adolescent contraceptive use increased and pregnancy decreased school-wide in a San Francisco school that undertook a multi-faceted prevention effort. This school complemented aggressive sex education with a presentation by an adolescent with AIDS and with contraception referral.

Several other school-based programs around the country have been studied, and a partial summary of these evaluations appears in Risking the Future, the report mentioned above. An outcome study of a clinic in St. Paul, Minnesota showed promising reductions in births, repeat pregnancies and dropout rates, but whether pregnancies were prevented or aborted is unclear from the data. Other data from Baltimore, Maryland show increased knowledge, delays in first intercourse, increased contraception use and decreased conceptions. Again, clinic services (actually provided in a storefront adjacent to the school, which could operate when the school was out of session) were coupled with strong sex education.

A group led by Dr. Murray Vincent at the University of South Carolina School of Public Health has recently published results of an intervention which produced a 56% reduction in the estimated adolescent pregnancy rate for a rural, black South Carolina community (Vincent, Clearie and Schluchter, 1987). The intervention was an integrated school/community family planning education program, targeting adolescents, teachers in graduate training, and parents. Contraception information and referral were provided to all participants. Finally, in Dallas, Texas, medical care to non-Medicaid, low-income Hispanic and black youth has been provided through school-based clinics for 20 years. Since the establishment of this program (operated in tandem with vigorous educational and community support measures), a 25% reduction of adolescent pregnancy has been observed.

Many of the findings in these studies are based on self-report data, and the type and quality of contraceptive services provided by the 120 comprehensive health clinics currently in operation varies greatly. Thus, many feel that some time will pass before research can determine whether this approach is an effective means of reducing adolescent pregnancy. Even after the necessary research is completed, the decision to establish a clinic in a particular high school will remain a local school board decision, since members of the community can best assess local service needs.

Alternative Approaches to Adolescent Pregnancy Prevention

Dr. Weed's review wholly ignores the many adolescent pregnancy prevention programs that do not focus on sex education, abstinence or contraception provision. A complete description of creative approaches to the problem of adolescent pregnancy prevention is beyond the scope of these comments; the NAS report provides a more thorough review. However, any useful sample of approaches would have

to include descriptions of programs that target non-sexual etiological factors in adolescent pregnancy.

One such effort, called "Teen Outreach", has been independently evaluated and has been shown to make significant differences in teenage pregnancy and high school dropout rates. This program engages young women in volunteering activity in an effort to enhance their self-concepts. In addition, teens participate in small group discussions focused on life management skills and goal-setting. Initially sponsored by the National Association of Junior Leagues, Teen Outreach is currently being replicated in more than 30 sites around the country.

Other intervention models addressing possible underlying causes of teenage pregnancy range from role model programs to training in interpersonal problem-solving and assertiveness skills. Having demonstrated varying degrees of effectiveness, such approaches should be taken into account in the design of multi-pronged, comprehensive programs of adolescent pregnancy prevention. One effort sponsored by the Joseph P. Kennedy Foundation has already incorporated both school-based and community-based components in a comprehensive program including education, service and counseling. This "Community of Caring" program was positively evaluated by a team of site visitors. These representatives of national professional organizations in five key health fields found the Community of Caring far superior to fragmented approaches.

Conclusion

It is becoming increasingly clear that a common set of risk factors is associated with several types of adjustment failures as well as with early pregnancy (Schorr, 1988). These risk factors include poverty, illiteracy and early school failure, parental abuse, neglect or absence, and lack of access to the medical and social services that could buffer the effects of deprived environments. The majority members of the Committee generally agree with the program and policy criteria listed by Dr. Weed at the conclusion of his report, but recognize that ensuring a viable future to at-risk children is also likely to be necessary to motivate them to persist in educational endeavors, to acquire non-violent problem-solving skills, to avoid drug abuse and otherwise guard their physical health, and to postpone parenting

REFERENCES

Brooks-Gunn, J. and Paikoff, R. L. (1989) Educationational Testing Service, Princeton, New Jersey. Taking no chances: Teenage pregnancy prevention programs. Unpublished manuscript.

Forrest, J. D., Hermalin, A. I. and Henshaw, S. (1981) The impact of family planning clinic programs on adolescent pregnancy. Family Planning Perspectives, 13, 109-116.

Hayes, C. D. (1987) Risking the future: Adolescent sexuality, pregnancy and childbearing. Washington D.C.: National Academy Press.

Lovick, S. R. (1987) The School-based clinic: Update 1987. The Support Center for School-Based Clinics, a project of the Center for Population Options. Washington, D.C.

Mitchell, F. and Brindis, C. (1987) Adolescent Pregnancy: The Responsibility of Policymakers. Health Services Research, 22, 399-437.

Rosser, S. and Ganser, J. (1984) The adolescent health clinic. Paper presented at the annual meeting of the American Public Health Association.

Schorr, L. B. (1988) Within our reach: Breaking the cycle of disadvantage. New York: Anchor Press.

Vincent, M. L., Clearie, A. F., and Schluchter, M. D.(1987) Reducing adolescent pregnancy through school and community based education. Journal of the American Medical Association, 257, 3382-3386.

Weed, S. E. and Olsen, J. A. (1986) Effects of family planning programs on teenage pregnancy--Replication and extention. Family Perspective, 20, 153-195.